

JPRS 77251

27 January 1981

Japan Report

No. 116



FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Indexes to this report (by keyword, author, personal names, title and series) are available from Bell & Howell, Old Mansfield Road, Wooster, Ohio 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

27 January 1981

JAPAN REPORT

No. 116

CONTENTS

POLITICAL AND SOCIOLOGICAL

- Magazine Reporters Evaluate Suzuki, Discuss Other Domestic Issues
(JIYU, Dec 80) 1

ECONOMIC

- Possible Citroen-Mitsubishi Tie-up To Aid Chrysler Reported
(LE MONDE, 2 Jan 81) 18

SCIENCE AND TECHNOLOGY

- Developments in Robots in Industry Outlined
(ROBOT, Jul 80) 19
- Promoting New Industry, by Tsuneo Ando
Research, Business Activities
Research, Business Project
JIRA Membership Information

POLITICAL AND SOCIOLOGICAL

MAGAZINE REPORTERS EVALUATE SUZUKI, DISCUSS OTHER DOMESTIC ISSUES

Tokyo JIYU in Japanese Dec 80 pp 167-182

[MASS-COMMUNICATIONS 'SECRET' INFORMATION: Series 12, anonymous magazine reporters' discussion report]

[Text] Surrounded by Stalwarts, the "Pitiful" President of Liberal Democratic Party [LDP]; Who Are the Guys Who Disrupt the "Harmony" Prized by the LDP President?

"S": Shall we begin with the evaluation of the LDP President, Suzuki?

"O": Watching his attitude in the Diet and hearing that he was starting out with politics of harmony, many believed that LDP President Suzuki would do all right and that he would have the longest political regime since the Sato Cabinet. However, when his reign started, it was learned that he was considerably inferior to the successive prime ministers of the past.

It is true that his soft approach, which does not rely on force, appears appealing, but he does not seem to have any vision at all. When his selection was made official because there was no other candidate, he acted as though he were in the pink of health and eager to serve but in reality, he was not up to par. A while ago, I met with commentator "M" and asked him for his assessment of Suzuki. He replied that he had no Suzuki evaluation and that although he had served long as a political reporter and commentator, this was the first time that he had met an LDP president who could not be questioned about anything and who was not worth interviewing.

Watching the situation, we feel the same. It was said that he would have a long regime, and for the time being, he is maintaining a balance by shrewdly consulting former Prime Minister Fukuda and others, but if some crisis should occur, he might be crushed between Fukuda and Kakuei Tanaka.

"N": The other day, I met LDP leaders and asked what would concern them after the special Diet session. They unanimously answered the "Diet interpellations" (laughter). They add that they didn't mean the lead-off interpellation either (laughter).

They say that damages have been actually done already. For example, in the budget estimate, the Child Education Law stipulates that a child support allowance of

5,000 yen is granted from the third child on. Although there were income limitations, even the section chiefs of ministries could receive the allowance. There was a partial understanding among the LDP leaders and certain government officials that something must be done about this matter. It so happened that the welfare ministers changed, and Minister Sonoda immediately interpellated at the Diet Budget Committee that he would strive to expand social welfare. The prime minister, who was listening to this, blurted out that the child allowance would be continued. The conclusion was reached. If this is the case, there would be no need for policy deliberations or even budget estimates. Everything would be decided in one stroke. Although Suzuki might not be doing it intentionally, he is said to be too meticulous. There is an unofficial agreement that he would interpellate after the responsible ministers.

A certain party leader made a general scrutiny of interpellations and concluded that 80 percent of them can be handled by the responsible ministers. Even if the questions are directed at the prime minister, the responsible minister can say that he would answer first and the prime minister would answer later. The responsible minister will answer initially but only in cases where the cabinet is unanimous in agreement.

Generally speaking, there haven't been many cabinets composed of so many strong men. Each one has his own design, and the time for "budget-grabbing" is approaching. There are Director General Nakagawa of the Science and Technology Agency, Director General Komoto of the Economic Planning Agency, Welfare Minister Sonoda, Director General Nakasone of the Administrative Management Agency and Minister Tanaka of the International Trade and Industry Ministry, and it is Finance Minister Watanabe who must control all of them (laughter). In this scheme of things, with everyone trying to get his own way, the prime minister must be powerful enough to coordinate the demands later. Otherwise, at the stage of budget preparation, the LDP will not be able to make any changes.

The above-mentioned incident did occur at the Budget Committee interpellations of the special Diet session which the LDP leaders had believed they could steer through somehow. That the special Diet session will be extended is partly decided. There is a pile of legislative bills, over which bargaining must be done with opposition parties, such as the two defense bills, the bill on full implementation of National Personnel Authority recommendations, etc. It seems that the LDP leaders are constantly quivering with concern that in this atmosphere, the prime minister might slip his tongue and because of the slip, a promise might be exacted from him.

"K": The same is true with regard to the Constitution, isn't it?

"S": It was said that Suzuki's forte, as compared with previous prime ministers, was his singular ability to coordinate. However, if his coordinating ability, too, is being doubted now, his qualifications as a prime minister would amount to zero.

"K": What is his ability to coordinate?

"N": It can probably be called simply a politics of harmony. Since the LDP continued a struggle till now, there might've been significance in having "harmony"

as an objective. According to the financial circle, "harmony" is a posture for doing something, and the problem for them is to find out what is going to be done next. If "harmony" is the only objective, it is not politics (laughter). That sums up Suzuki's posture.

"Y": The ability to coordinate was displayed during the period of high growth when money was plentiful. If there was a conflict somewhere, he upheld, with perseverance, the dignity of both parties while pointing out the best course to take. The times have changed. From a small pond called the LDP, he has jumped into a big lake called the government where there are no revenue sources. Even if he wants to coordinate, there is no money and he can do nothing. Unlike a person with a distinct political philosophy, he has none, so he is helpless even if he wants to coordinate.

"K": I asked the municipal bank leaders, who attended the meeting centered around Prime Minister Suzuki, why they participated, and they replied that they did because they did not understand him (laughter). Afterward, they said that he adjusts conflicts, not by having everyone make a sacrifice [from anecdotes of the famed magistrate, Lord Ooka Echizen] but by letting everyone make a gain. He gave everyone a little money to control them. They were saying that he can coordinate if he spends money but they were wondering whether he can coordinate without spending.

"Y": Isn't Suzuki weak at numbers? The LDP is concerned because he can interpellate in conversational language but in cases where the aim is financial restructuring, he must explain using numbers. However, Suzuki has no confidence so he must rely on notes in interpellations.

"N": With the entry of oil dollars, the age has come when the Japanese yen is floating while hedging with German marks. In this age, I wonder how many politicians understand the money exchange problem. The times call for a prime minister who has a sensitive feel for international currencies. A certain LDP leader who has had experience as the finance minister says that even the top echelon of the Finance Ministry is not well versed in it. Those who really understand it are the ones from the pre-WW II days when the yen was fluctuating, or the present youngsters who belong to the floating market period which followed the freeing of yen. Aside from them, people do not really understand the daily fluctuations of exchange rates. This is a joke, but one of the top leaders of the opposition parties said that people keep talking of increase in yen value, but when will 1 dollar become 500 yen? (laughter.) They are functioning with a sense that 1 dollar equals 500 yen. It seems that Suzuki is not an exception.

"Y": With respect to Suzuki, I imagine that the evaluation came out as anticipated. When there was no one but Suzuki, people around him shut their eyes to all his faults and looked at only his good points in trying to get him accepted somehow. However, when it comes to the budget or other concrete matters, capable leaders tend to disregard him. Since they must show their own merits, they gang up on the prime minister and try to get the lion's share of the budget. Since the prime minister has neither political clout nor philosophy, the competent politicians are guided by their own political concepts or power in the budget-grabbing. When that happens, Suzuki's reputation naturally drops.

As long as Suzuki does not make a terrible slip of the tongue in Diet interpellations or his face does not become distorted as Tanaka's was at one time, it is difficult to predict how long his regime would last because he completely lacks an independent image. While those around him are fighting on equal terms, he is safe, but as soon as someone with real power emerges, the need for Suzuki would disappear. His fate is entirely dependent on others (laughter).

"K": He did not become a prime minister by making public promises. There is no way he can be censured for breaking public commitments. In politics of harmony, those who disrupt the harmony are at fault (laughter).

"S": Will culprits appear to break the harmony?

"Y": That will be the crucial point in discussing Suzuki.

"K": When the parents are negligent, the children work hard...(laughter).

"Y": The situation is touchy because the eldest son has not yet been chosen.

"N": It is said that presently, there is no anti-mainstream consciousness in any of the LDP members. On the other hand, no one has a mainstream awareness. The LDP's assessment is that since he is popular in the public opinion polls, Suzuki is doing all right (laughter). That is about the extent of his evaluation. He can get by with this assessment because he is not doing anything now, but there is worry that as soon as he does something, his reputation will drop immediately.

"K": In visits to the United States or at summit meetings, he will be all right as long as the foreign minister is beside him, but otherwise, there is concern that he might make a slip of the tongue in interviews with foreign reporters and create crises.

"N": The LDP top echelon is worried most about that. He is on probation until the American presidential elections. There is no pressure now from the United States. It is said that the past prime ministers have aged from the U.S. pressure. As soon as the presidential elections are over, pressure might be abruptly exerted. The problem is how to cope with it when that happens.

Even when things are quiet, the relations between the prime minister's staff and the Foreign Ministry are not good. Foreign Minister Ito and Cabinet Secretary Miyazawa are not on friendly terms. Ito's confidence and Miyazawa's insight are clashing, but Suzuki's "power of harmony" seems helpless. It is said that if Suzuki were to stumble, it would be in foreign affairs.

Will the Constitution Be Revised or Not?

Debates of Ruling and Opposition Parties Are Like "Beating the Air"

"O": There is certainly a possibility that Suzuki might make a slip of the tongue. Considering how Suzuki came into power, I think there is no doubt that he has a form of puppet regime. It is not a clearcut one, but there is a considerably deep-rooted feeling that members of the various factions think they can press their

demands through Suzuki. I think that that feeling is shown clearly in arguments over the Constitution. The other day, I met with Diet member Takako Doi, of the Japan Socialist Party [JSP] and talked about various items. Justice Minister Okuno asserted in the Diet, with tears running, that the present Constitution was not an independent one. However, later, in his administrative policy speech, Prime Minister Suzuki stated that he upheld peace, democracy and fundamental human rights and that he would not change these basic concepts of the Constitution. When the justice minister was questioned further, Suzuki answered instead and said I respect the Constitution's basic concepts which stand for peace, democracy and fundamental human rights. According to Doi, in the LDP platform, it is written plainly that on the basis of peace, democracy and fundamental human rights, the Constitution will be revised. To respect these rights means that on their basis, the present Constitution will be preserved or on their basis, the present Constitution will be altered. However, Suzuki takes the stand that he will not infringe upon the three basic principles and therefore, he respects the present Constitution. In the LDP platform, it is stated clearly that the Constitution will be revised and that revisions will be carried out with due respect for the rights. The opposition parties are being very cleverly deceived.

By the way, resolutions for constitutional revisions are arriving now in great number from the local legislative bodies. An interesting point is that heretofore, resolutions were on the establishment of an independent Constitution but now, they are on the drafting of a new Constitution. This is quite a change. The past movement to establish an independent Constitution aimed to revise and prepare an independent Constitution because the present one was made by the Americans and not by the Japanese themselves. The movement began to change from about last year. The reason given is that the "Showa" period is about to end. When the present emperor passes away, a new era will begin. The present Constitution is a relic of the Showa era and full of faults. Therefore, a new Constitution should be drafted by ourselves. Numerous resolutions to this effect are said to be arriving steadily.

Presently, we refer to the pre-WW II and post-WW II periods when we discuss the Showa era, but the intent is to discard it entirely and to establish a new Constitution of a new era.

Whether the LDP thinks so is another matter, but progress is being gradually made toward constitutional revision by drafting criminal law revisions, secrets protection law, etc. The final big jump forward will be taken when the Showa era ends. Probably, that will take place some years hence. To prepare for that time, discussions of constitutional revisions are being brought up, one after another, in the Diet. In other words, although little by little, the foundation is being laid. For that purpose, they hope that Suzuki might serve as a sort of sacrifice.

For constitution revision, Zenko Suzuki can be effectively utilized. Throughout his term, he will speak up on behalf of the various LDP Diet members and present their views. If Suzuki moves about deftly, in accordance with their wishes, he will have performed his role. Judging by the circumstances under which he came to power and his present activities, I think that there is considerable truth to that viewpoint. From the JSP standpoint, that is what makes the situation extremely troublesome. The LDP is presently taking up the matter in the Diet because it

wants to drag the opposition parties into the same arena and make them express their views on the present Constitution. If they so desire, they can gradually make revisions which would not violate the Constitution, such as on the SDF [worship] which has an absolute majority. However, they do not want to do that the underlying reason for openly trying to drag the opposition parties into constitutional debates is the aforementioned development. For that, Zenko Suzuki is necessary. Unlike Suzuki, if a person with his own vision and insight serves, he will express his own views, like Justice Minister Okuno. They do not want such a person to become the LDP president at this time. They want a person who will speak as they want and exercise authority as they wish. Zenko Suzuki is such a person.

Carrying out that function is the chief task for him. He will become troublesome if he thinks for himself. For the opposition parties, he is a very difficult adversary. It is not that he is formidable, but battling him is like "beating the air." In that sense, the opposition parties are distressed trying to figure out a means to attack him. I have heard this not only from Doi but from several other persons.

"Y": The opposition parties are being challenged with constitutional debates in various committees. While discussions are limited to the Constitution, Suzuki need only reply by supporting the previously mentioned three basic principles and he will not make any mistake.

Although other committees might be discussing more important matters, the newspapers play up constitutional arguments, so one cannot grasp, at all, any detail about the budget by reading the newspapers. In the past, Diet inquiries were held to search for every detail about some leak of confidential information, squandering of government funds or production of defective goods. If that happens, the defense director general might falter and the prime minister might be questioned. He might answer that he is not prepared (laughter). He might even stand speechless and this image be seen by the people. Then, criticisms would arise that Suzuki cannot do the job and the LDP is proud only of its number while spending hours in idle slumber. However, as long as the next committee is rehashing the constitutional arguments, which seem to have been exhausted, and Okuno is asking why is it wrong to discuss the Constitution, the situation is safe.

"K": Looking back, it is apparent that the opposition parties were dragged in.

"Y": Without realizing it, the opposition parties were dragged into the scheme, and they are not only lethargic but victims of high-level strategy.

"S": The opposition parties were probably dragged in but they are fond of ideological issues. They are not very good at, and therefore, avoid substantive arguments because they are the type who believe that 1 dollar equals 500 yen. There are a considerable number of ex-bureaucrats in the conservative party, so it has the ability to handle numbers. On that score, the opposition parties are entirely helpless.

The JSP policy board members are, in a sense, studying. I was asked by a Diet member to write questions to raise at a budget committee hearing, so I did. The

Diet member questions, following the format. Sometimes, an absurd reply is received. Secretariat members are listening because they wrote the questions. The Diet members, not realizing the significance of the replies, do not pursue the questioning and go on to the next. Secretariat members are happy to have the questions raised, as they wrote them, but they regret and wonder why the Diet members do not follow up. It seems that this lack of study by opposition parties has helped, at any rate, stabilize the conservative party.

Green Card System--

Precursor of National Identification Number System

"K": Among the Diet activities, there is an item that I think is truly odd. This is the so-called green card system which was approved by the Diet during the days of former Prime Minister Ohira. With the revision of the Income Tax Act special measure, this system became official on 31 March for the Income Tax Act, and the entire nation must observe it. On thinking about it carefully, I wonder how such a system passed the Diet. That system will lead to a national identification number system. As a result, an individual's income will be recorded in the future on the card with a permanent identification number. All the information will be fed into computers. The card system was proposed to correct tax inequalities. The opposition parties tried to rush it through the Diet and the LDP obliged. Since the system was aimed to increase taxes as much as possible to rebuild Japan's finances, the plan was a commendable one for both the ruling and opposition parties. The system was approved unanimously.

As it is, the system is all right but it is a breakthrough that paves the way for an identification numbering system. Unless a consistent number is assigned, the system will not work. For example, if I were rich and made savings deposits in Yokohama, Fukuoka, etc., even computers cannot discover this unless a consistent number was assigned. I think establishment of the system was thoughtless. As a rule, interests represent, at the most, a 10 percent annual increase of the principal. Therefore, something must be done about the principal. The Finance Ministry bureaucrats think that because there is principal, there is interest, and if you can spot the latter, you can trace the principal. This is a very indirect method. Actually, another intent of the system is to prevent tax evasion.

Therefore, it is reported that "grey money" is changing hands rapidly in Kabuto-cho [Japan's Wall Street] and people are trying to dodge future taxes by making money now. Actually, the source needs to be reformed. This is true of the preferential tax system for doctors. It is like trying to treat sewage water without cutting off its source.

The preferential tax system for doctors should encourage them to earn through their ability and technique and not from sale of medicine. I heard about this the other day, but it is reported that practically none of the private doctors in this city would perform an operation for sinusitis. I inquired if the operation were that difficult and the answer was that the operation fee was very low, from 10,000 to 15,000 yen. Furthermore, an anesthetist and a few nurses are needed and the operation is not simple. Therefore, only the university hospitals, which combine internship and education, would perform the operation.

To repeat, they did not try to correct the source of troubles. Instead, they established a system, i.e., the green card, which in itself might be worthwhile but which might create troubles later. Re-examination of the Diet records shows that neither the ruling nor opposition parties delved into the truly problematical issues.

New Liberal Club--Feud Between Tagawa and Yamaguchi

"O": There is talk in the New Liberal Club [NLC] about the resignation of Tagawa. The NHK news reported that Tagawa expressed his desire to resign while the executive meeting was being held the other day. On the same day, the fourth anniversary party of the NLC was held and Tagawa gave the opening address. Since the news was broadcast during his address, he was asked to comment again on it. Tagawa, himself, has stated from before that he was in office for one purpose and he wanted to transfer the office soon to Yohei Kono. In his address, he stated that his role was practically over and he will serve until the party general meeting, but he wanted to hand over the reins to someone else. He was probably pointing subtly to Yohei Kono. The party general meeting will be held in February 1981. Four months still remain. He is not prone to lying so he has already said he wanted to yield his position to a successor. Although it was an election victory celebration he was enjoying, not long after he became a Diet member, his statement is wanting, in a way, in responsibility. I spoke to other Diet members and there was considerable criticism about his making the statement at the particular gathering. His desire to make Yohei Kono the leader again is understandable, but by openly saying so, he might have made it difficult for Kono to make a comeback. Because of the Nishioka incident, he reduced the Diet members and taking the blame, he resigned. It might be difficult for a person who took such drastic actions to make a comeback simply because the number of Diet members increased slightly in the recent election.

I think that the Yamaguchi problem is also rooted deeply in Tagawa's feelings. In the Fujimi Maternity Hospital incident, the name of Toshio Yamaguchi surfaced. Tagawa summoned Yamaguchi, who had returned from the PRC visit, and talked for about 2 hours inquiring as to his involvement. At the time, Yamaguchi did not think the incident would grow into the serious proportions that it did, so he made excuses to get away. Later, various scandalous actions were revealed, such as his receiving a bigger payoff than Jushiro Komiyayama of the conservative party. They want to replace Yamaguchi but the latter is taking a defiant stand, stating that if you kick me out, I'll leave the NLC. When the Kono-Yamaguchi talk was held, Yamaguchi apologized for embarrassing the NLC, but he also told Kono that if he did not fit the NLC image and his remaining as secretary general was awkward, then to cut him off. In turn, however, he warned that if Kono had the ambition to make the NLC a force to upset the LDP and to take over the country's political reins, he had better think the matter over carefully. At every election, no one brings in funds. Yamaguchi runs around to borrow money and with the money, candidates numbering in double-digit figures were elected from the NLC. Yamaguchi knows best that elections cannot be won without money. Kono and Tagawa are only watching this from the sideline. Kono claims that Yamaguchi is able to borrow money because he and Tagawa are in the forefront, and he deplores the fact that other NLC members do not understand this at all. Aside from Yamaguchi, no one wants to do the dirty work of gathering money. The Yamaguchi faction has grown considerably and both Kono and Tagawa feel uncomfortable about it. Since this is a good opportunity, they want to kick him out. There is a possibility, however, that if they

mess up the operation, Yamaguchi might take a number of members with him and leave the NLC. Tagawa says that he is not clinging to the president's position. He is acting as though he would resign willingly and Yamaguchi, too, should not cling to the secretary general's position, but withdraw temporarily. Yamaguchi's side takes this as a form of insinuation.

These weaknesses put together motivated the resignation statement. If Kono utilizes this occasion to make a comeback, he might create unrest. This minority party has been repeatedly faced with upsetting disturbances. Although this party is a miniature of various political parties, I feel a premonition that something bad is about to happen or a small party is about to split.

Personally, I do not think that Toshio Yamaguchi is a bad person. He became known as a politician but he has too many bad points. Since he is only the NLC secretary general, he is not taken up much by the mass media, but if he were one of the executives of the LDP, he would be criticized even more than Koichi Hamada. He is still branded as a mini-Kakuei [Kakuei Tanaka] or mini-Hamako [Koichi Hamada]. I think I can understand the predicament of the NLD and Tagawa-Kono in having such a member.

"Y": Without the dirty element, however, it cannot become a double-digit [number of Dietmen] political party.

"S": If Kono claims that he is going to repay the debts, I think that he should do the borrowing. The present and past party presidents only criticize the dirty aspect of Yamaguchi and do nothing themselves. I have doubts about these persons who are responsible for the party.

"Y": Speaking ill of persons, Tagawa and Kono are pretending ignorance. I cannot approve of their actions.

"O": They are not pretending ignorance. It is a fact that they really believe so. Therefore, the problem is worse. Kono has not grown up at all as a politician.

"K": He should think seriously about how his father made money (laughter).

"Y": That is right. I wonder if it is a reaction against his father. This point is not clear.

"N": To give a little more interesting twist to the Yamaguchi-Kono talks, it went something like this: "If you want to kick me out, do so, but can you return all the money that I collected for the election? Besides, if I quit as secretary general, Kakizawa will replace me." Kono was struck dumb by this remark. Although the foregoing conversation might not be factual, I think it reveals what is going on. The struggle between Kono and Yamaguchi is over who will throw out whom and has continued as an inner strife within the NLC.

For the time being, with the Yamaguchi faction victorious, the NLC rode out the elections. From monetary and personnel standpoints, in building up the NLC as a political party, the Yamaguchi faction has taken over completely. I imagine Yamaguchi is saying that: "To destroy me is to destroy the NLC. As Tagawa became

president with the backing of Kono, Kakizawa's rise is being supported by me to preserve the semblance of a Yamaguchi party. You, Kono, must select one or the other."

"S": Kakizawa is said to be very close to Yamaguchi.

"N": I view the situation as follows: If Yamaguchi actually makes the foregoing statement, he would be proclaiming a rebellion. Kono and Tagawa believe that they cannot put down a real rebellion. If Yamaguchi is going to be so defiant, they will yield and stop complaining.

"O": Both sides cannot make up their minds. In the final analysis, Yamaguchi's faction is victorious. There is an interesting episode. Yamaguchi's car is equipped with a phone. He can be contacted immediately. After Tagawa's talk with Yamaguchi about the Fujimi hospital incident, Yamaguchi's name frequently surfaced. Tagawa says that what Yamaguchi told him was different and asks his secretary to contact Yamaguchi. Yamaguchi's secretary replies that he cannot contact Yamaguchi but if he does, he will have him call Tagawa. There was no call from Yamaguchi for 3 days. Tagawa knows that Yamaguchi has a phone in his car. This is clearly a revolt against Tagawa. However, Tagawa was unable to do anything.

By the way, I met with Kono the day before the NLC president was to be interpellated. Kono said the interpellation of the president cannot be conducted because of the Yamaguchi problem. Some solution must be found for the Yamaguchi problem. Should the NLC apologize for it? Kono thought that the interpellation of the president should begin after the apologies by the NLC. To do that, Yamaguchi must be informed and his permission obtained for the apologies. The plan could not be carried out because Yamaguchi flatly refused. The Yamaguchi faction, to a man, defiantly rode out the situation.

"S": That it did not become a Diet issue was because the Japan Communist Party [JCP], which is usually the most harassing, was also involved.

"O": That is right. With regard to this incident, only Yamaguchi has not admitted his guilt. All the others accepted the blame. In that sense, they wanted to show that the NLC was a Yamaguchi party.

To return to the original point, unless Tagawa resigned now and installed Yohei Kono, it was believed that the Tagawa-Kono line of succession would be served. Unless Tagawa withdrew early and made it clear that Kono was his successor, there was a possibility that, after he resigned, a movement might be set afoot to find a new leader because Kono, himself, had been smeared.

"N": To explain that a bit further, NLC is a small party but jealousy is strong within it and there is the rivalry between Kono and Yamaguchi. If that rivalry disappears, Kakizawa enters the picture. As long as Yamaguchi is around, President Tagawa cannot pretend to be the sole leader. Toshio Yamaguchi continues to be an influential figure in the NLC. If Yamaguchi is removed, Kakizawa emerges. Tagawa wants to hand over the baton to Kono early because if Yohei Kono is not put in the limelight again now, Kono might be buried in the NLC. There are some Diet members from regional constituencies who believe that Kono is already buried.

"Y": It seems that division into two factions is the only way out.

Immoral Relations Between a Newspaper Advertisement and an Article

"S": Is there any news in the economic field?

"K": There was news about the resignation of the head of the Daiwa Securities Co., Ltd. because of a scandal. But it is not a particularly unique account. For example, Hosoi, president of the Dowa Fire Insurance Co., Ltd. also resigned because of a scandal, but it did not develop into a criminal court case. Now, Kikuichi, president of the Daiwa Securities, one of the four large securities firms, resigned but there is something strange about it.

There is some question as to whether the magazine, ZAIKAI [FINANCIAL WORLD] alone could have blown up the story into such big proportions and forced the president to resign. The incident came out in the open and spread because it was carried in the stock section of the 24 August issue of NIKKEI newspaper. As a sort of preview article, it said, "With news leaking that a certain financial magazine to be published early this week will carry an article about irregularities of Daiwa Securities top echelon, the Daiwa Securities Co. is in an uproar. By the top echelon is meant President Kikuichi, and the suspicious acts concern the sales of real estate and paintings." The incident began with this article. In other words, this article reported on the contents of an account that the ZAIKAI magazine would carry. The Daiwa Securities discovered this article and were thrown into a commotion. The problematical point is that this ZAIKAI advertisement arrived, 2 or 3 days before, at NIKKEI as a manuscript. Those who first saw it became greatly excited and passed it to the NIKKEI stock department which decided to go ahead and publish it. If such incidents occur, magazines would be scared to scoop any news. Some might question why, but the ZAIKAI people were greatly perturbed. They were angry and protested. The NIKKEI people replied that they were merely backing up ZAIKAI's account. However, they have been following up on the article such as by interviewing people involved in the incident, the president, et al. In a sense, they are getting a free ride at the expense of others. The result was that the incident worsened and the president resigned with the vice president, called Doi, taking over. Somehow, I think that is disloyal...If the NIKKEI newspaper writes news articles, for distribution, from ad copies, we will not be able to make a living. From the time the ad copies are published and before the magazines hit the stands, 3 or 4 days will elapse. In a way, the journalistic world has recently become corrupt.

From that standpoint, there are other cases. For example, the KAISHA SHIKIHO [QUARTERLY COMPANY REPORTS], published by the Toyo Keizai Co., is being copied exactly in the new KAISHA JOHO [COMPANY INFORMATION]. The NIKKAN KOGYO newspaper, which is operating in the red and cannot even give bonuses to its employees, is being pressured by the competition of NIKKEI SANGYO newspaper, covering the same industrial news. In other words, the NIKKEI is not doing much to cultivate its own field. That manner of operation raises doubts even for a capitalistic newspaper.

The NIKKEI presently has on its staff a great number of reporters in their 30's or early 40's. They know the predicament they will face if they carry these reporters through the years to come...I feel that this is an example of how the journalistic world has become distorted.

"N": All the periodicals have had bad experiences with ads. In daily sales, they constitute a form of prior censorship.

"S": When the ad attacking the Soka Gakkai [Value Creation Society] was published in the ASAHI, the society knew beforehand about it and came with the request to have it deleted. It seems there is an informant....

"K": In large companies, such as Dentsu Advertising, Ltd., there are people who make a living out of it.

"Y": There are leaks also from printing companies....

"K": Periodicals are unable to protect secrets absolutely.

"N": Since the Dentsu Advertising receives the galleys beforehand and also the ad copies, leaks can occur. Moreover, newspaper ads are censored before publication and items detrimental to company interests are asked to be changed.

"K": With ads, there are various standards, so ads can do damage in society. Therefore, some harm must be expected.

As related in last month's issue, house and real estate ads generally appear in the national newspapers because they are difficult to sell. Good items are all sold out without being advertised in newspapers. The Mitsubishi Estate Co., Ltd. and Mitsui Real Estate Development Co., Ltd. never advertise good items in newspapers. They pass on the information to such groups as Tomo-no-kai [Society of Friends] which they have formed. I've heard that if they do not have to place newspaper ads, their profit margin becomes big enough to buy a house. Ad fees are made by advertising items which are not easily sold. Yet, when something happens, they seem to get unreasonably angry.

"O": In the kidnapping incident of Nagano prefecture, an ad was placed in the newspaper. Naturally, the newspaper became aware that it concerned the Nagano kidnapping incident when the ad was placed. At the time, publication of the news was forbidden. Therefore, the content of the ad was relayed immediately to the social news department of the newspaper and the reporters' club at the Tokyo Metropolitan Police Department. Instructions had been sent to the Nagano Prefectural Police to move very carefully, but they sensed that it must concern this incident. Is there any trace that they acted quickly?

"Y": Since the arrangement was that the press ban would be lifted on the day the magazine went on sale, they must've known about it beforehand.

"S": The ad problem was a difficult one which became a court case between the SANKEI and the JCP.

"K": I think that the proverb, "poverty dulls the wit," is true in every society.

"O": In our magazine company, there is a broker who pays so much for even partial information on the theme of any periodical to be published during that week. It is claimed that the broker gets the information, at least, 2 days before publication. I myself have never met him.

"Y": The most troublesome is the case where a person takes credit for stopping the publication of an item and collects a big compensation although the magazine itself might have decided to stop the publication. Articles concerning enterprises create the most worries. Formerly, such things did not occur so everyone took it easy and acted according to his own wishes. Nowadays, however, there are very shrewd persons (laughter).

"K": Has the tertiary industry developed to this extent? (laughter.)

"Y": Does that become a quadri-industry since it is taking commission from the tertiary? (laughter.)

Small Bankruptcies, Big Bankruptcies

"O": The number of bankruptcies is increasing. Won't there be a considerable number of bankruptcies from fall into winter of this year? Our magazine is predicting that the number would be the greatest in history and the problem seems very serious.

"K": First, there is some question as to how the bankruptcy statistics are taken. I want to emphasize this point but the basic statistics are those of the Tokyo Shoko Koshinsho, Ltd. There are other statistics such as those on bad checks taken by the bank association, but in general, they belong to the Tokyo Shoko Koshinsho, Ltd. I believe that they have counted companies with debts of over 20 million yen. Because of inflationary figures, some companies which would not have been counted in the past are included now. That is one problem. Like GNP, I think that the real value must be considered.

"O": Recently, I met a colleague who was gathering information on the number of bankruptcies. He was checking on companies employing five or six persons, and complained that since they all disappear after the company fails, he cannot get the details.

"K": When speaking of total liabilities, the meaning of the word "liability" is the problem. Although they mention "liability," they have capital assets elsewhere. At first, they play down the assets and mention only the liabilities. They do not deduct the assets from the liabilities. Therefore, bankruptcies must be carefully calculated. Although inflationary adjustments are made to some extent by everyone, unless that is done, errors are liable to occur when comparing over a very long period of, say, 10 or 20 years. Over a period of 3 to 5 years, one can determine whether bankruptcies have increased or decreased. In that sense, I do think that bankruptcies have increased, but judging by my hunch and various other economic indicators, I do not think the problem is such a great one.

"O": It isn't too bad but when reading such reports, although they might not be factual, something seems to be wrong. Of course, our firm likes to play up a sense of crisis (laughter).

"K": How about considering this example. Suppose that bankruptcy statistics are based on debts of over 20 million yen. A real estate dealer owns a house but is in debt for half its value. Let us say that the house is worth 40 million yen and

and the dealer is in debt for half its value. He sells the house at a sacrifice price and the 20 million debt remains. In other words, he has a total liability of 20 million yen. In addition, he might have incurred other expenses such as for meals of contacts, rent for office, etc. Thus, he is included in the bankruptcy statistical count. With the basic figure of 20 million yen, great care should be exercised in handling bankruptcy statistics.

What is more worrisome is the bankruptcy of an enterprise with total liabilities of several trillion yen. I think the real problem now is whether an enterprise such as the Mitsui & Co., Ltd. might become bankrupt.

"N": How is Mitsui & Co., Ltd. faring?

"K": To give the conclusion first, I do not think it would go bankrupt but I think the company is desperate to get out of Iran. The Mitsui group has been self-conceited all along--all of them. Members of related companies, which are in Iran, speak badly of Mitsui, saying that if Mitsui did not exist, they would not be suffering so much. Since it is so large, they cannot crush it. If it were in the class of Ataka & Co., Ltd., they would've crushed it at once and wiped their hands of it.

There is talk that the project should be continued, since Iran might possibly increase production greatly, but the enterprise is already a failure. Even if completed, if there is no gas or rather, it cannot use the free gas, the enterprise would be operating under the same condition as an oil combinat in Japan proper. Therefore, there is no point in running that enterprise. If it did begin to operate, since the Mitsui group is already producing the same product, they will be in competition. It will be using naphtha. It was started with the objective of using, without cost, the gas which comes out together so if it has to use crude gasoline, it would be pointless. According to people associated with Iranian petrochemicals, Japan will not be able to engage in petrochemical industries because of the pollution problem. Therefore, the competition problem would eventually disappear. I think that this is one viewpoint. The gas prices are soaring and there is much talk about pollution. Furthermore, petrochemical combinat facilities in Japan have reached the stage where they must soon be scrapped. To rebuild them once more at the high prices today would cost an enormous amount, so it would be wiser to scrap them and buy the product from abroad. The petrochemical combinat does not need much personnel expenses since it is an equipment industry. It is certain that this factor was included in the original calculation since the shrewd top echelon of Mitsui & Co., Ltd. had planned the project. The project failed because the war between Iran and Iraq intensified, but that is not all. Actually, it failed as a business venture.

You are aware of the construction company called the Fujita Corporation. It is presently engaged in road construction in Iraq. The other day, I visited the main office and inquired whether the employees hadn't better be pulled out because of the war. The other party laughed and replied that six employees were leaving Iraq tomorrow. He said that the road construction site was 600 km away from the battlefield. He not only said that it was safe, being so far away, but that he himself had visited the site. Talk about the war is exaggerated in Japan, he says, and that it is not a real war. The war is being fought by inexperienced soldiers on both sides. Jet aircraft fly over but immediately return after strafing so there can be no aerial dogfights at all.

Conservative Statements of Progressives

Politically Prejudiced Articles of Newspapers in Dilemma

"S": A while ago, North Korea held the sixth general meeting of the Korean Workers' Party. I was surprised to see in the 16 October issue of the ASAHI newspaper, an article containing the views of scholar-educators on the emergence at the meeting of father and son as successive DPRK presidents. Aside from one or two persons, the educators, possibly Marxists or Leninists who usually make inciting remarks, were making directly opposing conservative comments as though they praised the emperor system. Makoto Oda said the matter was not yet decided and refused to comment, but not Unai Fujishima and Kanji Seki, particularly the latter. I do not know what Seki was thinking about and it is unfair to criticize him simply because of the remark, because comments sometimes get distorted in news reporting, but judging by the news article alone, I would say that conditions were fine in North Korea. That is like saying, in reverse, that conditions had been fine in Japan during WW II.

That is, Seki is saying that Kim Il-song is superior to Emperor Meiji of the Meiji era. He speaks as though it were only natural to have his child succeed him. I do not understand his reasoning. Fujishima claims that "revolutions are carried on by the next generation." These words began to be used in North Korea from the mid-1970's in discussing "succession to the revolution." This phrase is also used in textbooks by the General Association of Korean Residents in Japan. Using the phrase, they say that the revolution carried out by the father, Il-song, will be continued by the child, Chong-il. It is also said that since Chong-il is the child born of parents burning with the revolutionary spirit, he is a genius. Anyone who has made any study of that country should know but Kim Chong-il was born on 16 February 1940 and is now 40 years old. It is well known that during his student days, he was involved in a number of traffic accidents and in sexual affairs with girls. It might have been the excessive action of a youngster but I do not think that a genius would do such things (laughter). He became a member of the party nucleus when he was 31 or 32 years old and now at 39 years, he is actually the second in command of the government, military and political party. This is because he is the son of Kim Il-song and our common sense tells us that he will be the successor.

I cannot accept the explanation that that was done because in a socialistic country, there is always chaos in selection of the successor whenever the leader dies. The problem is the cause of the chaos. To say that, "because there will be chaos, a successor will be selected as a preparatory measure," is a stupid and unacceptable reason for a socialistic nation. The persons mentioned earlier have taken certain ideological standpoints in uttering their comments, heretofore, but with regard to this issue, they have abandoned their ideologies. It is worse than political talk in a barbershop. I like to believe that ASAHI newspaper erred in reporting, but it does not appear to be so since ASAHI has shown respect in carrying their views in the past.

"K": I read it with the feeling that all were in a dilemma. The ASAHI was on the spot and so were the interviewees.

"Y": I thought that maybe it was an article that carried ASAHI's views. The most sensible of the commentators was Masao Takahashi. A country that took up socialism after the other countries immediately became a socialistic nation without going through the democratization process. Therefore, feudalistic traces remain in what appears to be a socialistic country. He presented very convincing views. I think the other commentators are practically all DPRK rooters.

"N": Kim Il-song's "peerless patriotism" has been mentioned by his rooters from before. Common sense tells us that the words "peerless patriotism" are not applicable to modern politics. Since everyone knows that, it is foolish to comment on it. In a sense, the same is true of the ROK. To say that Chun Doo Hwan is unavoidable under the present setup is the same as stating that since the country is in a developmental stage, it may do anything it pleases. From the standpoint of endorsing democracy in today's Japan, one cannot say that everything is all right. Depending on the circumstances, the DPRK rooters are expected to say certain things. At least, we must be aware that articles and editorials concerning the Korean peninsula are all colored.

"S": There should be more scrupulous reporting on a country that is so close geographically and historically, whether it be the North or the South. Since the general populace has no choice but to believe the news articles, as presented, overly prejudiced reporting should be avoided. There are too many unfair articles on the DPRK and the ROK in the mass media.

"N": Belief that North Korea is a truly progressive country is, I think, a questionable assumption.

"K": From the standpoint of the general populace, the question is not one of taking what you read with a grain of salt. The readers are wary of writers who have only temporizing convictions.

"O": I am not making excuses for ASAHI, and we of the weekly magazines are also guilty, but when carefully reading the ASAHI, whether the news concerns North Korea or the PRC, there are a few short articles which are critical. However, because of the company's editorial policy or in the case of YOMIURI newspaper, because of its close affinity with North Korea, criticisms cannot be fully expressed. With regard to the PRC and "gang of four" issue, charges are being reported. Even criticisms about Mao Zedong are being written.

However, an even more important development is the emergence of arguments for defense in Japan because the PRC acknowledged the Japan-U.S. Security Treaty. There was an avalanche of arguments for defense, especially from rightists. PRC's recognition of the security treaty provided the opportunity. Historically speaking, this was a great blow to the opposition parties. The reporters are anxious to write criticisms about the PRC, what it is saying, its attitude, its past actions, etc. but they cannot because of the company's policy. They are writing the criticisms in tidbits but they cannot expect the general readers to assimilate them...One should read, with detachment, articles concerning the DPRK and ROK problems. The selection of pro-North Korean commentators, mentioned earlier, shows a design. It is not known whose design it was, but such plans are made by those in the top echelon. The rank-and-file reporters are not happy about it. Their

resistance appears in dribblets in the articles. One method they use is to print wire releases as received. When one reads these articles carefully, one realizes that the reporters are trying to say something. Even then, however, there are articles concerning the DPRK and the PRC which make one seriously wonder.

"S": Last week's issue of SHINCHO magazine carried a critical article on the Japan-Soviet round table conference. The Soviet attitude, like that of the mainland Chinese and North Koreans, is not wholly acceptable. Therefore, they are criticized. We tell the Soviets that since you represent a big nation, you should think big and not fear being crushed no matter from where you are attacked. The reporters have been told many different things, stemming from fear of the Soviets, and they are nervous about it. The Japanese must better understand their counterparts and need to make them see our viewpoints.

Soon, about 100 persons are going to the USSR and the meeting will be held to promote mutual understanding. It appears that the Soviets want to respond with sincerity and Brezhnev himself might receive the group.

"Y": The anti-Soviet propaganda in Japan has been particularly strong recently.

"S": The Soviets and the Koreans, including North and South Koreans, are among the people most criticized or most hated by the Japanese at present. Reasons for hating the Soviets can be understood but it is not clear why the Koreans are hated. I think that there is quite a strong contempt for Koreans.

"K": I feel that that is a case of "close kinship hatred," just as the French and the Spanish, both of Latin descent, are unfriendly.

9134

CSO: 4105

POSSIBLE CITROEN-MITSUBISHI TIE-UP TO AID CHRYSLER REPORTED

Paris LE MONDE in French 2 Jan 81 p 14

[Excerpt] Will Chrysler have to give up its own remaining foreign affiliates to succeed in its rescue plan? According to the Japanese daily SANKEI SHIMBUN, Chrysler's French and Japanese partners are thinking about it. Thus, the presidents of Peugeot-Citroen and Mitsubishi will reportedly meet in Paris in April to study the means through which they can help Chrysler and more specifically, to discuss an eventual purchase of those factories located outside the U.S.

Citing informed sources, the Japanese daily specifies that the two companies could manufacture their own models in these plants in order to guarantee bases for themselves on the market of the two Americas. If this information--unconfirmed, however, by the two manufacturers--would turn out to be true, a further step would thus be taken in the policy of intertwined interests between the Japanese firms and other world manufacturers.

There are many reasons why PSA-Peugeot-Citroen and Mitsubishi, for their part, are interested in Chrysler's fate, the first being that the rescue plan has experienced some delays: the deputy spokesman of the White House has officially announced that no decision on the granting of the government guarantee of the new line of credit (400 million dollars) requested by Chrysler will be made before the inauguration of the Reagan government. He specified that this was due to "practical reasons," given the fact that, following the advice of the control commission set up for the purpose, a 15-day delay is required for any decision to become effective. Political reasons, however, are quite clear: it seems that the Carter administration is unwilling to make a commitment obligating the Reagan administration, which does not favor this type of assistance.

Chrysler's survival is of considerable interest to the French and Japanese manufacturers because the U.S. group owns 15 percent of the capital of both companies. For the PSA-Peugeot-Citroen group, the operation had taken place in August 1978, when Chrysler had ceded to PSA its French, British and Spanish affiliates. As for Mitsubishi, it took over the Australian affiliate of the ailing U.S. giant last May.

The Peugeot group had already started preparing itself for the day when Chrysler, following a series of rescues, would face still more anguished disruptions, by signing in February, and later in July, a financial, commercial and industrial agreement with the U.S. manufacturer; for the Sochaux firm, this was a way to break into the American market. The eventual purchase of the remaining foreign affiliates would complete the operation, since they are all located on the American continent: Canada and Mexico in the north and Argentina, Brazil, Colombia, Peru and Venezuela in the south.

CSO: 4200

SCIENCE AND TECHNOLOGY

DEVELOPMENTS IN ROBOTS IN INDUSTRY OUTLINED

Promoting New Industry

Tokyo ROBOT in Japanese No 27, Jul 80 pp 3-7

[Article by Tsuneo Ando: "Heralding the 'Promotion Year' of the Industrial Robot"]

[Text] Recently, I was unexpectedly nominated to the post of president of the Japan Industrial Robot Association, Incorporated. The year I was first installed as president in 1973 was when the robot industry was just born and I was in a somewhat uncertain state of feeling about just what the fate of this enterprise would be. The rapid growth during the past few years had led to the age of the popular acceptance of the robot today, and I cannot help but look back at the thoughts I went through in the past. I am also deeply aware of my responsibilities as president of this important organization at a time when the foundation for a spectacular growth in the industry is being established.

With the transition of the economy from one of high growth rate to one of low growth rate, the industrial world recently has been faced with the need to reinforce its industrial and business foundations as well as to strengthen its international competitive power, and there has arisen the need particularly to improve productivity. At the same time, there is the need to prevent incidence of labor disasters and occupational diseases and promote the welfare of the worker.

The industrial robot which is a powerful tool for making practical these social needs is used in production plants to improve workability, stabilize quality, lower rejection rate of products and increase overall productivity. At the same time, it is used in hazardous and extreme operations and operations in adverse environments to contribute to the welfare of workers. In addition, the lack of skilled labor due to the trend to acquire higher levels of education and the increasing level of white collar workers in the factory scene has been countered by the creation of a genial and knowledgeable working environment to restore the element of humanism and contribute to job security. In this manner, more and more hopes are being placed on this industry.

The major area of application of today's industrial robot is in the secondary industries particularly in the manufacturing area, but it is expected that future developments will see its application to the primary industries (agriculture, forestry) and other secondary industries such as civil engineering, construction,

nuclear power and marine development and to tertiary industries (medical care and service industries), and this entry and expansion in areas other than manufacturing is expected to be considerable.

In another direction, with this expansion in the areas of introduction and the increasing harshness of the economic environment, it is to be expected that the technological development at all user levels, improved level of performance and improved economics will become even more necessary, and we as makers of the tools to fulfill these demands must put forth even greater effort.

Fortunately, under the guidance and support of the Ministry of International Trade and Industry and the cooperation of concerned parties at all levels, the following policies were put into effect to promote the industrial robot, beginning in JFY 1980.

1. Fiscal aid (low interest loan from the Japan Development Bank) to the Japan Robot Leasing (Company) established by subscriptions from member companies of this organization and insurance companies.
2. Designation of the industrial robot as an additional tool which can be purchased through a system for advancing industrial safety and hygienic facilities (low interest loans from the Medium and Small Industry Loan Fund and the People's Finance Corporation).
3. Establishment of a special amortization fund for the high-performance electronic computer system industrial robot.
4. Designation of robots as candidates for loans from the Medium and Small Industries Facilities Modernization Loan System and Facilities Loan System.

The fact that these various policies have gone into effect indicates that the first year for promotion of industrial robots is providing a dramatic curtain raising for the 1980's.

Based on the viewpoint presented above, the business activities of this organization have to be expanded and reinforced in all out manner by the maximum effort of all concerned in order to respond to these developments in this industry and the demands of the broad industrial world. The cooperation of every member is a foregone conclusion, and I am asking for guidance and help from all concerned offices and positions.

Establishment of the Japan Robot Leasing Company, Limited (JAROL)
Japan Robot Leasing Co, Ltd (JAROL)

It is said that 1980 will be the first year the industrial robot will find popular acceptance, and accounts of industrial robot applications are popular items in the newspapers.

It is in this background that the Japan Robot Leasing Co, Ltd was established with the cooperation of concerned government agencies and bureaus, other concerned parties and the industrial world, and several months have elapsed since this establishment.

The purpose of this paper is to introduce the activities of JAROL and describe its policies, its makeup, its merits and the procedures to be followed in availing oneself of these capabilities.

Table of Contents

1. Introduction
2. Present State of JAROL
3. JAROL Policies
4. Organization and Merits of the Leasing System
5. Procedure for Users
6. Closing Statements

1. Introduction

The Japan Robot Leasing Company, Limited (JAROL) was established on 9 April 1980 with a capitalization of 100 million yen by subscription from 24 industrial robot makers and 10 casualty insurance companies with the purpose of promoting applications and popular use of industrial robots.

While the activities of this new company have been covered in fragmentary manner by the press and magazines during the first few months of its existence, this paper will describe just what activities actually take place, what policies are being pursued and what the merits are of the use and the methods of utilization.

2. Present State of JAROL

Although it has been saddled with a number of functions ever since its inception, it may be said that the business of JAROL got off to an orderly start. The liaison and consultation group which was established to serve as the broad pipeline between the robot makers and JAROL serves not only to beat out the business mode and policies to guide JAROL activities but also to pave the pathway which JAROL will follow. At the same time, the Japan Development Bank and the Japan Industrial Development Bank have spearheaded the organization of a cooperative financial group to make available convenient and abundant capital, and the system which is expected to fulfill the needs of industry for a sole leasing company is gradually taking shape.

In addition, the queries from the newspapers and magazines have been increasing, active referrals are being made and the first contract was signed at the end of June. There is need now to reinforce the business system in order to cope with the increasing future business.

3. JAROL Policy

The purpose of establishing this company is "There is great prospect for increased demand for robots in view of their ability to improve productivity, prevent labor disasters and to supplement the shortage of labor in factories. On the other hand, its negative factors include the comparatively high cost and the rapid tempo in technological innovations such that they quickly become out of date. These negative factors will have to be overcome to enable the promotion of industrial robots to industry in general starting off at the medium and small industry level."

Since the laying of the foundations for a leasing company is the first item as far as JAROL is concerned, the following four points are being emphasized as targets.

1. General PR activities to extol the merits of robot introduction by JAROL.
2. Intensify the approach to a robot maker businessman and put forth all effort in laying the foundations for a company with high volume of contracts.
3. Set up a mechanism for procuring convenient and abundant capital.
4. Establish rapport with the industrial world and set up vision for the future.

Some specific measures under item 2 include the construction of a JAROL lease manual which has already been distributed to stockholder makers and representative outlets, and explanatory sessions have been held at Tokyo, Osaka and Nagoya from the last part of June to the first part of July which were received very well and have enhanced customers' anticipation.

4. Organization and Merits of the Leasing System

Leases in general can be broadly classified into financial leases and all other leases other than financial leases which are lumped together as operating leases.

The bulk of the leases which leasing companies in general let out today are financial leases, and the JAROL leases at the present time are limited to financial leases.

A financial lease is one in which the leasing company purchases the necessary machinery which is then rented to the customer who pays for the entire or the greater part of the cost during this rental period as leasing fee thereby enabling the leasing company to recover its costs. This system has the following merits.

- 1) There is latitude in the use of funds (actually 100 percent financing can be obtained, and no security, incremental fees or construction fees are required).
- 2) Advantageous actions are possible in the face of inflation.
- 3) It is possible to avoid the worsening financial ratio (there is no transfer in ownership).
- 4) More rational business operation is possible compared to outright purchase (only the monthly lease needs to be paid).
- 5) The entire lease fee can be treated as an expense (on the other hand, the term of the lease is adjusted to the legally determined number of usable years).
- 6) Flexibility is possible to counter machine degradation compared to outright purchase (the same result as complete amortization in a shorter period compared to amortization for an outright purchase is possible).

In JAROL's situation, there is great cooperation from the stockholder makers compared to other leasing companies, and the following other benefits accrue.

- 7) All conceivable consultations regarding robots are possible.
- 8) Speedy examination of contracts is possible.
- 9) Information service can be offered.
- 10) Other industrial services can be offered.

In this manner, the unique features of a joint leasing company limited to robots can be exploited.

5. JAROL's Lease Procedure

The procedure to be followed in utilizing JAROL's services is diagrammed in Figure 2.

There is first the application on the part of the user or a referral by a maker whereupon JAROL requests the submission of fiscal data and various business reports which are subjected to simple and speedy examination after which the estimated cost of the lease (leasing fee) is calculated for any given leasing term.

When the estimates have been turned in, the terms of the agreement are drawn up between maker and user and then submitted to JAROL.

After this document is received, the lease contract between user and JAROL as well as the purchase agreements between JAROL and maker are drawn up. After the items are obtained, there is a period allotted for inspection after which the communication of completion of transfer of the machinery in question is drawn up between user and maker and submitted to JAROL.

The procedure is complete at this stage, and what follows is the period during which the leasing fee is paid (see Figure 2).

In another direction, there are users who wish to enter into leasing agreement on robots but who are unfamiliar with the robot maker or the application of his machinery in which case the user is introduced to a maker who displays a robot close to what the user has in mind after which the maker and user engage in discussions to establish the exact type of robot to be introduced, the cost and the leasing period, then go into the leasing procedure which was described above.

6. Closing Statements

The demand stratum for industrial robots is gradually expanding from the large industries to encompass the medium and small industries, and its diffusion into the medium and small industrial area has already proceeded to a considerable extent.

For example, there is the popular use of painting robots in the area of household electrical equipment related area along with the wide use of robots to remove

articles from extrusion-forming machines and material-handling robots for use with presses.

When we consider the effectiveness of the leasing system not only from the merits accruing to the user but to the maker as a sales promotion device, it may be said that the capabilities of the leasing system will be exploited more and more to popularize the robot.

Figure 1

(1) Name of Company	Japan Robot Leasing Company, Ltd (English name: Japan Robot Leasing Company, Limited) (Abbreviation: JAROL)	
(2) Address	Kamiya-cho Bldg, 5-12-12 Toranomon, Minato-ku, Tokyo-to Telephone (03) 434-2861	
(3) Date of Establishment	9 April 1980	
(4) Principal Business	Leasing of industrial robots and their application systems (all production system including robots themselves), allotment sales, sales and the basic operations Providing information related to industrial use robots and their operating systems such as plant design, execution, undertaking and system consultation Other business activities related to the above	
(5) Capitalization	Paid in capital 100 million yen (authorized capitalization 400 million yen)	
(6) Stockholders	Aida Engineering Co Ishikawajima-Harima Heavy Industries Orii (Co) Sugeba Kogyo (Co) Kawasaki Heavy Industries Kyoshin Electric (Co) Keiai Seisakusho (Co) Kobe Steel Ltd Toshiba Seiki (Co) Tokiko (Co) Toyota Machine Works, Ltd Hitachi, Ltd Fujikoshi (Co) Fujitsu Fanack (Co) Fuji Electric Co, Ltd Mitsubishi Heavy Industries	

Shin Meiwa Industry
Co, Ltd

Mitsubishi Electric
Corporation

Star Seiki (Co)

Motoda Electronic
Industry

Dainikkiko (Co)

Yasukawa Electric Mfg
Co, Ltd

Taiyo Tekko (Co)

Plus 10 casualty
companies

Tsubakimoto Kyogyo (Co)

(7) Major Financial Organs

Japan Development Bank, long-term trust banks, and
other financial organs

(8) Directors

Executive President

Shinichi Matsuda

Executive Director

Kenichi Shiroto

Executive General
Affairs Chief

Shokichi Tatsu

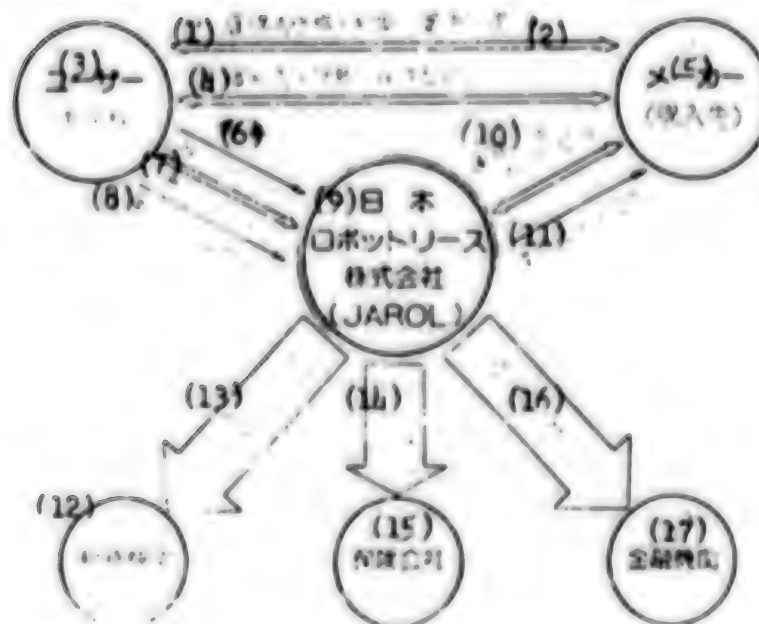


Figure 2. Procedure for Leasing Contact

Key:

1. purchase price, period
2. contract
3. user (customer)
4. delivery and adjustment
(maintenance contract)

5. maker (purchase source)
6. lease application
7. lease contract
8. payment of lease fees

- | | |
|---|--|
| 9. Japan Robot Leasing Co,
Ltd (JAROL) | 14. casualty insurance contract
and payment |
| 10. making order, sales contract | 15. insurance company |
| 11. payment for the equipment | 16. funds procurement |
| 12. tax organ | 17. financial organ |
| 13. declaration and payment of
tangible assets tax | |

Figure 3. List of Inquiry Sources (Maker Business Contacts)

Aida Engineering (Co), Business Department 229	2-10 Oyama-cho, Sagami-barashi, Kanagawa- ken 0427-72-5231
Ishikawajima-Harima Heavy Industries, Numerical Control System Technology Section 188	3-5-1 Mukaidai-cho, Tanashi-shi 0424-66-1520
Oril (Co) General Affairs Department 259-11	6 Suzukawa, Isebara-shi, Kanagawa-ken 0463-93-0811
Sugeba Kogyo (Co) Business Department 105	6th Floor, World Trade Center Bldg, 2-4-1 Hamamatsu-cho, Minato-ku 03-435-6451
Kawasaki Heavy Industries (Co), Hydraulic Machines Department, Business Plans Section 105	World Trade Center Bldg, 2-4-1 Hamamatsu-cho, Minato-ku 03-435-6853
Kyoshin Electric (Co), Business Department 106	6-20-7 Ikegami, Ota-ku 03-751-2131
Keiaisha Seisakusho (Co), Business Department 244	4840 Waizumi-cho, Totsuka-ku, Yokohama- shi 045-802-5331
Kobe Steel Ltd, Machine Industry Department, Business Headquarters, Industrial Use Robot Group 100	Daichi Tekko Bldg, 1-8-2 Marunouchi, Chiyoda-ku 03-218-6261
Shin Meiwa Industry, Co, Ltd, Machine Industry Department 100	Shin Ote-machi Bldg, 2-2-1 Ote-machi Chiyoda-ku 03-243-0561
Star Seiki (Co), Business Section 467	252 Nitta, Kochi-ya, Konaki-shi 0568-75-5211
Dainikkiko (Co), Business Department 160	8th Floor, Daini Maruzen Bldg, 6-6-13 Nishi Shinjuku, Shinjuku-ku 06-348-6311
Taiyo Tekko (Co), Systems Business Department 533	48 Kita Eguchi-cho, Higashi Yodogawa-ku Osaka-shi 06-340-1111

Tsubakimoto Kyogyo (Co)
Automobile Equipment
Department 100

6th Floor, Kokusai Kanko Kaikan, 1-8-3
Marunouchi, Chiyoda-ku 03-214-7571

Toshiba Seiki (Co), 2nd Business
Department 243

5-14-33 Higashi Kashiwagadani, Kairomei-
shi, Kanagawa-ken 04-62-31-8111

Tokiko (Co) Vehicle Hydraulic
and Pneumatic Business Department
101

1-6-10 Uchikanda, Chiyoda-ku 03-292-8111

Toyota Machine Works, Ltd, Business
Plans Section 448

1-1 Asahi-cho, Karitani-shi, Aichi-ken
0566-22-2211

Hitachi, Ltd, Product Business
Department 105

World Trade Center Bldg, 2-4-1
Hamamatsu-cho, Minato-ku 03-435-4271

Fujikoshi, Ltd, Machine Tool
Industry Department 105

World Trade Center Bldg, 2-4-1
Hamamatsu-cho, Minato-ku 03-435-5036

Fujitsu Fanack (Co) Robot
Business Department 194

3-5-1 Asahigaoka, Hino-shi, Tokyo-to
0425-84-1111

Fuji Electric Co, Ltd, Industrial
Electrical Industry Department 100

7th Floor, Shin Yuraku-cho Bldg,
1-12-1 Yuraku-cho, Chiyoda-ku
03-211-7111

Mitsubishi Heavy Industries, Fine
Machines Business Department 100

2-5-1 Marunouchi, Chiyoda-ku 03-212-3111

Mitsubishi Electric Corporation
Business Management Department 100

2-2-3 Marunouchi, Chiyoda-ku 03-218-2148

Motoda Electronic Industry,
Business Section 156

4-32-9 Kami Kitazawa, Setagaya-ku
03-303-8491

Yasukawa Electric Mfg Co, Ltd,
Tokyo Business Department,
Yasukawa Shoji (Co) 101

Seni Boseki Kaikan, 2-16-9 Uchi Kanada,
Chiyoda-ku 03-256-7271

Research, Business Activities

Tokyo ROBOT in Japanese No 27, Jul 80 pp 23-27

[Article by Japan Industrial Robot Association: "Report on Research and Business Project 1979"]

[Text] 1. Outline of Work Done

The industrial robot and its system are designed to promote productivity and safety throughout the manufacturing industry and thereby contribute towards the healthy development of the people's economy. These are the objectives to which end this organization developed and pursued during the course of 1979.

1) With the purpose of promoting the popular use of the industrial robot and improving the developmental technology, the following activities were pursued.

(1) Popularization promotion activities (interest-free loan system) were expanded because of increase in operating expenses.

(2) An engine manual, industrial robot utilization technology series, and industrial robot text (three parts) were compiled and published. At the same time, there were lectures on utilization technology and Japan-wide industrial robot symposiums which together with industrial robot film festivals all were aimed at all-out exposure of the industrial robot.

(3) A suitable policy for popularizing the industrial robot was established, and a technological assessment survey and research was initiated in order to establish the policy guidelines.

(4) In order to cope with the tremendous technological advances in system products and the industrial robot itself, a lease system was set up to facilitate the introduction of these robots, and the Japan Robot Leasing Company, Ltd was founded by joint subscription.

(5) Plans were laid for a "high performance electronic computer controlled industrial robot" as special amortization subject for important compound machinery.

(6) The new establishment of the labor safety industrial robot financing system (Medium and Small Industry Loan Fund, People's Finance Corporation).

(7) Designation of industrial robots to be used in the modernization of Medium and Small Industry Financial Aid System and the Facilities Loan System.

2) In order to establish basic guidelines for the industrial robot, set up research and development system for its applied system products, and to set the production system, a long-term survey and research was conducted on the industrial robot in the industrial production area.

3) The following activities were pursued in order to improve quality and performance of industrial robots, improve stability, lower production cost, establish systems for production of special products, improve maintainability, improve labor safety and promote technological development:

(1) Research on standardization of the joint section between wrist and hand

(11) Establish group specifications with regard to safety of industrial robots

(111) Establish JIS basic specifications on properties of industrial robots

(iv) Completed a "computer-assisted robot system engineering (CARE) system design" in order to promote system engineering for industrial robots and their applied systems

5) The following activities were pursued in order to promote improved productivity throughout the industrial world, labor welfare and social welfare.

(1) Cooperative efforts in research and development (large project) on super high-performance laser application multiple production systems

(2) Accepted and worked on contract for conceptual design and technological trends survey for the "Technological Developments in Safe and Automated Systems for Casting Finishing" to be conducted during the 6-year period starting in 1978 for the Medium and Small Industry Agency (active organ Medium and Small Industry Promotion Group)

(3) Proposed research on model for patients nursing system

(4) Proposed research on system to improve meat processing environment

(5) Proposed research on labor safety system in reinforcing steel assembly operations

(6) Conceptual design for safe and automated system to be used in high-level radioactive waste disposal operations

(7) Conceptual design of automated system to clean insulators on high tension power lines

(8) Conceptual design of automated cleaning system for at-sea inspection of ship bottoms

(9) Conceptual design for safe automated system to exchange gases within furnaces

6) Technological exchange with foreign countries were conducted on the industrial robot, and the following activities were pursued in order to promote export.

(1) Participation in the 10th International Industrial Robot Symposium

(2) Initiated preparations to sponsor the 11th International Industrial Robot Symposium

(3) Reception of visiting observation groups from the United Kingdom and France

(4) Product display and cooperation at the 1980 Mexico-Japan Machine and Technology Market City (JETRO activity cooperation)

(5) Collection of foreign literature and catalogs, translation of foreign literature and publication of reports of the 7th Industrial Robot Overseas Technology Survey Group

2. Contents of Activities

1) Policy Related

(1) Based on the proposals of various committees and the associated discussions, it was decided to solicit requests for granting subsidies and assign project costs, and a request form was submitted as a result of which requests for subsidies and contractual assignments were received.

(2) In order to promote popular acceptance of the industrial robot, requests were made to various agencies of the Ministry of International Trade and Industry for policy assistance management as a result of which the following systems for promoting the popular use of industrial robots materialized to be put into operation during JFY 1980.

a. Special amortization system for high-performance electronic computer-controlled industrial robot

b. Industrial robot leasing system with financial assistance (Development Bank)

c. Financial system for the labor safety industrial robot (Medium and Small Industry Finance Fund, People's Finance Corporation)

d. Loan system to modernize medium and small industrial facilities, facility loan system

2) Publication Activities

(1) Publications such as bulletins

(i) July 1979 "Robot No 23," September 1979 "Robot No 24," December 1979 "Robot No 25," April 1980 "Robot No 26" were published.

(ii) Editing, publishing of bulletin "Robot Monthly Report"

(iii) Editing, publishing of general survey of industrial robot catalogs (covering 31 companies and 75 types)

(iv) Industrial robot textbook (three sections
New businesses and robots
Technology of industrial robots
Publications on applications of industrial robots)

(v) Editing, publishing of industrial robot utilization technology collection

(2) Business Related

(i) Sponsorship of "industrial robot utilization technology lectures." The 12th Industrial Robot Utilization Technology Lecture was sponsored in September 1979 and the 13th session of the lecture with the same title was sponsored in April 1980 for the purpose of popularizing and expanding industrial robot technology and promoting the sale of industrial robots.

(ii) The "Industrial Robot Film Festival" was sponsored in February 1980 at the Nikkan Shimbunsha Hall.

(iii) Sponsorship of robots and utilization system symposiums

(iv) Sponsorship of the 1979 industrial robot exhibition. Jointly sponsored with Nikkan Kogyo Shimbunsha the 1979 industrial robot exhibition (with conveyance systems) in October 1979 at the international trade fair held at Hareumi in Tokyo.

3) Popularizing Promotion Activities

(1) The interest-free lending activities for promoting industrial robots and their application systems is planned to promote sales of industrial robots and products of their utilization systems. At the same time, it is expected to contribute to the development and promotion of utilization systems and improve technological levels.

The source of the financial activity is planned to be the 620 million yen in the Machine Industry Promotional Funding Subsidy, and the following 13 companies were granted loans of 630 million yen (actual loan of 435 million yen with 195 million yen to follow) during JFY 1979 (this was an increase of 34 percent compared to the preceding year).

Taiyo Steel Industry, Motoda Electronic Industry, Star Seiki, Showa Compressor Industry, Toshiba Seiki, Mitsubishi Shipbuilding, Kawasaki Heavy Industries, Orii Company, Tsurukimoto Kyosan, Fujikoshi (Co), Mitsubishi Heavy Industries, Fuji Electric, Kanko Electric.

(2) Long-term predicted demand for industrial robots

With the purpose of establishing future production systems and research and development system facilities, actual state examinations (maker's actual state examinations, user's actual state examinations, research organ directed examinations) and long-term demand predictions were conducted, and the results were compiled into a report.

(3) Survey research on technological assessment related to industrial robots

Continuing on an intermittent schedule from JFY 1978, research was conducted from the long-term and diversified viewpoints on the technological, economic and social impacts of the popular use of industrial robots which was part of a 2-year activity. A suitable popularization promotion plan was established, and the results were compiled into a report.

(4) Robot consultation office

This office was devoted to the treatment of subjects of discussion between robot users and makers and the disposition of the discussed subjects.

4) Technology Promotion Activities

(1) Methods of connecting the wrist and hand and standardization of the dimensions of the connection section were studied to improve the replaceability of the hand section aimed at establishing a special production system, improving applicable technology, improving rationality, and lowering production cost through standardization of research on the joint section of the wrist and hand. The standardization plan was compiled into a report.

(2) Framing group specifications in safety specifications for the industrial robot

Group specifications related to safety were drawn up with the purpose of systematizing the structure and capabilities of industrial robots to assure safety of

robots versus man and objects, contribute toward clarifying the minimum safety requirements on the part of makers and users with respect to industrial robots and facilitating understanding, and to rationalize the construction, acquisition and operation of system designs using industrial robots and applied system products.

- (3) Survey and construction of an industrial standardization base plan related to the method of displaying properties of industrial robots

A JIS original plan was drawn up with the intent to improve quality and contribute to the stability of the industrial robot through systematization of the method of displaying properties, to facilitate the clarification and understanding of the properties display such as the minimum capabilities considered necessary by users with regard to the industrial robot, and to rationalize the system design construction, and the proposal was submitted to the Agency of Industrial Science and Technology.

- (4) Research on system model plan for aiding care of patients

The recent shortage in nursing personnel and its effect on bedridden old people as well as patients with serious injuries together with occupational diseases such as lumbago which impose such heavy loads on the nursing staff have become serious social welfare problems, and a conceptual design was drawn up on the automation of a nursing system which may prove to be the key to this nursing problem.

- (5) A questionnaire survey was conducted on the research and development status of industrial robots and associated technology as related to survey and analysis of trends in research organs (a part of the long-range demand predictions), national research organs and university laboratories, and the results were collected and analyzed before being compiled into a report.

- (6) Survey research related to patents

The special patent committee conducted the following survey research.

- (1) The following patents and reports were accumulated.

1) Technological literature	656 items (April 79-March 80)		
11) Japanese Patents Kokoku	108	"	"
Kokai	227	"	"
111) Utility models Kokoku	89	"	"
Kokai	186	"	"
iv) American patents	48	"	"
v) British patents	35	"	"

- (11) A study was conducted on a modification proposal (Patent Office Proposal) related to classification B 25 J on industrial robots with respect to international classification acting on a request from the Patent Agency, and the results of the study were submitted to the Patent Agency as a proposal from this organization.

(111) Simplification of patent information search procedure

The activities of the private search service organ of the type being gradually becoming better equipped were followed, and methods of conducting searches were studied.

(iv) Joint action on disputes such as statement of opposition to a patent

No problem arose this past year, and no actual measures were taken.

(7) Survey research on low-cost automation

A literature survey was conducted on LCA.

5) Safe Labor Conservation Model Proposal Activity

(1) Proposed research on improved system for meat processing environment

Because of the type of work involved, a meat processing center requires experienced workers while the working environment is poor making for poor tenure of the workers. This was why a conceptual design for an automated model of an industrial robot system was drawn up for introduction into a meat processing center.

(2) Proposal research on labor safety system for steel reinforcement assembly operations

Reinforcing steel assembly for buildings and bridges involves on-site manual labor through operations at high or hazardous locations. This is why a system model plan was drawn up which enables a series of operations such as positioning of the reinforcing steel, tying of wires to keep the reinforcement in place, and welding.

(3) Special research on safe and automated systematization technology development for castings finishing operations

This activity is aimed at developing safe and automated technology for finishing castings of diverse arrays of small quantities of cast products with the purpose of aiding the safe development of the future casting industry. The Medium and Small Industry Agency requested the commission of research and development through the medium of the Medium and Small Industries Promotion Work Group which is the executional organ of this activity. This group has been assigned to do studies on technological and economic feasibilities based on the conceptual design of the system and conduct trend survey research on system automation technology. The results have been compiled as a "Report on Survey Research Results," and it has been submitted to the Medium and Small Industries Promotion Work Group.

6) System Development Activity

(1) Survey research related to system design for computer-assisted robot system engineering

This activity has been pursued intermittently since JFY 1976. The CARE special committee (Chairman, Chair Professor Shigeru Watanabe, University of Tokyo) was

established with three subsections consisting of the CAI subsection (in charge of developing training program for fostering energy conservation system engineering), R. L. subsection (in charge of developing robot language), and the CAM-R subsection (in charge of system design). Survey research on CAI was entrusted to the Japan System Engineering Laboratory, R. L. was entrusted to the Ono Shosho Office (Co) and JMA Systems, and CAM-R was assigned to the Japan Efficiency Association.

(2) Proposed research on safe and automated high-level radioactive waste treatment

High-level radioactive wastes are produced from the reprocessing of spent fuel from nuclear reactors. A solidification treatment has been adopted for the treatment of these waste liquids, but this process involves operations under conditions of high levels of radioactivity, and the automation of this process has become a pressing problem. With this in mind, a conceptual design of an automated system for the disassembly operation of a solidification treatment melter was drawn up.

(3) Proposed research on automated system for cleaning high-tension power line insulators

The cleaning of insulators on high-tension lines is an indispensable operation from the standpoint of preventing reduced transmission efficiency and prevention of insulation damage. On the other hand, this operation not only involves work at high and dangerous working environment but becomes a very taxing operation during the summer and winter months. The conceptual design for an automated maintenance system was drawn up in order to resolve this situation.

(4) Proposed research on automated system to inspect and clean ship bottoms during maintenance at sea

The development of technology to make possible maintenance inspections and cleaning of the bottoms of ships and other marine structures while they are at sea makes possible repair and maintenance while the ships are at sea and greatly improves the maintenance situation. With this in mind, this activity has produced a conceptual design for an automated system for maintenance inspection and cleaning of ships while they are at sea.

(5) Proposed research on safe automated system for gas replacement

This activity is aimed at the automation of the gas replacement operation in industrial furnaces to disengage workers from operating in high-temperature and dust-laden atmospheres and from carrying heavy objects as well as to provide a working environment suitable for employment of middle to elder workers. Conservation of energy in gas removal and introduction operations and in cleaning operations as well as automation of the operations were the aims of the conceptual design of the system developed.

(6) Cooperative activities with research and development on super high performance laser application multiple production system (large project)

With the objective of technological development necessary to the development of a "multiple production system" capable of flexible and rapid production of a

number of small unit production items from a common metal raw material, a large project titled "super high performance laser application multiple production system" was initiated in 1977, and this organization has participated in the committee activities.

7) International Technology Exchange Activity

(1) Participation at the 10th International Industrial Robot Symposium

The 10th International Industrial Robot Symposium (ISIR) was convened 3-5 March 1980 in the city of Milan in Italy with participation by 450 representatives from the various countries of the world, and the proceedings were recorded in 55 volumes of manuscripts. This organization sent a technology survey group consisting of 19 people who not only participated at this symposium but also surveyed the development situation of industrial robots in Italy and the status of their utilization technology the results of which were compiled into a report and published.

(2) Collection of foreign literature and foreign catalogs, translation of foreign literature

A literature list and file were constructed on foreign literature and published under the title "Report of the 7th Industrial Robot Overseas Technology Survey Group."

(3) Sponsorship of the 11th International Industrial Robot Symposium

With regard to the 11th International Industrial Robot Symposium which is expected to be held at the Keidanren auditorium on 7-9 October 1981, an initial circular on the 11th ISIR was printed following the studies and deliberations of the executive committee and the operations committee which was circulated at the 10th ISIR held at Milan, Italy on 5-7 May 1980 as well as to the national coordinators in the different countries.

(4) Reception of visiting groups from abroad

Visiting groups from the United Kingdom and France interested in industrial robots were introduced to the present status of industrial robots in Japan. At the same time, they were assisted in making the rounds of research organs, makers and users.

(5) Product participation at the 1980 Mexico-Japan Machine and Technology Trade Fair

Japan Trade Promotion (JETRO) was assigned the display and exposition of industrial robots at the Japanese government's booth at the "1980 Mexico-Japan Machine and Technology Trade Fair" which was held at the Auditorio Nacional in Mexico City on 9-18 May 1980, and Toshiba Seiki (Co) assisted in this participation.

Research, Business Project

Tokyo ROBOT in Japanese No 27, Jul 80 pp 28-31

[Article by Japan Industrial Robot Association: "Plan on Research and Business Project 1980"]

[Text] 1. Basic Guidelines for the Business Plan

The following basic guidelines for business plans during JFY 1980 were established with the purpose of promoting the production of industrial robots and the application system products, contributing to the improvement of industrial productivity and labor welfare, and adding to the healthy development of the people's economy.

- 1) Amplify activities related to the promotion of popularizing industrial robots and their application system products.
- 2) Conduct business directed at obtaining basic indices for providing systems such as research and development systems and production systems of industrial robots and their application system products.
- 3) Conduct business directed at improving and stabilizing quality and performance of industrial robots and their application system products, lowering production cost, improving maintainability and promoting labor safety and technological development.
- 4) Engage in activities such as survey research on promotion of conceptual design, mechanical systems and engineering of automated systems that will contribute to energy conservation, automation and safety in a wide segment of the industrial world.
- 5) Conduct survey research on development of industrial robots and their application system products to improve social welfare and labor welfare.
- 6) Conduct international technology exchange and promote trade.

2. Contents of Main Business Plan

- 1) Expand and reinforce public relations activities

Bulletins and comprehensive catalogs on industrial robots were compiled and published in order to popularize industrial robots and their application systems. At the same time, domestic industrial robot symposiums were sponsored, use technology lectures were given and film festivals were held in addition to which PR funds were used in financial and tax assistance management by which means the PR area was expanded and reinforced.

- 2) Expand and reinforce industrial robot and its application system promotional activities (Machine Engineering Promotion Subsidy Activity)

This activity is designed to promote sales of industrial robots and their application system products while also aimed at improvement of the technological level and

contribution to the promotion of utilization technology development. It provides interest-free loans to members of the organization to cover the complete cost of purchasing industrial robots and their application system products.

A total of 600 million yen will be made available in JFY 1980 to expand and reinforce this activity.

3) In addition to the Machine System Promotion Loan Fund (Development Bank loans) system, the various systems listed below were newly established during 1980, and various activities to promote effective utilization of these systems were conducted to promote the popular use and acceptance of the industrial robot and its application systems.

a) Industrial robot leasing system (Leasing operations through the medium of the Japan Industrial Robot Leasing Company, Ltd)

b) Special amortization system for important compound machines (high performance electronic computer-controlled industrial robot)

c) Special loan system for facilities such as industrial safety and health facilities (labor-safe type industrial robot loan system)

d) Medium and Small Industry Facilities Modernization Loan system, Facilities Loan system

4) Long-term demand predictions will be made on the industrial robot with the object of obtaining basic guidelines for systems which have to be provided for research and development as well as for production (Machine Industry Promotion Loan and Subsidy Activity).

This program went into effect in 1979 as a 2-year activity, and a long-term demand prediction was drawn up during JFY 1979 directed at the manufacturing area, and this year's activities will take in other fields besides manufacturing such as construction and mining type secondary industries along with primary and tertiary industrial areas. To this end estimates on changes in the economic world and technological world expected to take place up to 15 years in the future were compiled and used to make predictions 5 and 10 years into the future. (Total activity cost 18,745,000 yen (of which 14,058,000 yen is from the subsidy fund))

5) Group specifications and establishment of JIS standards type standardization activity will be conducted with the intent of improving the quality of industrial robots, improving performance, lowering production cost and improving maintainability.

5)-1 Research on distribution lines and pipes (total cost 2 million yen (all by subsidy))

5)-2 Set up group specifications related to operating panel display. Establish group specifications on push buttons, switches and lights used on the operating panel for use with industrial robots. (Total cost 2 million yen (all by subsidy))

5)-3 Set up industrial standards base plan related to methods of measuring performance of industrial robots

This activity is pursued in order to contribute to the simplification in clarifying and understanding the properties display giving the performance of industrial robots through a systematized performance measurement method and to aid the construction and rationalization of the system design for industrial robots and their application system products. (Cost 300,000 yen provides by the government's general budget)

6) The following activities will be pursued to cover automation and stabilization over a wide industrial area.

6)-1 Pursue technological development of safe and automatic systemization of castings finishing operations (commissioned activity by the Medium and Small Industry Promotion Group)

The Medium and Small Industry Agency has a plan to develop "technological development of safe and automated systematization of castings finishing operations" over a 6-year period starting in JFY 1978 at a cost of 400 million yen (12.3 million yen in JFY 1978 budget, 43.24 million yen in JFY 1979 budget and 72 million yen in JFY 1980 budget) and thereby develop this technology.

This activity involves technology oriented surveys in continuation of JFY 1979 relative to the above technological developments and also involves preliminary survey on common specifications drafting. (About 7 million yen expected for commissioning)

6)-2 Cooperative efforts with research and development on super high performance laser application multiple production system (large project)

There are a number of problems which need to be resolved if the Japanese machine industry is to become the central nervous system of future economy as an information gathering industry, and one of the most important problems awaiting resolution is the improvement to the productivity of multiple products of small numbers production systems. With this in mind, a large project under the sponsorship of the Ministry of International Trade and Industry was started in JFY 1977 with the title "research and development project on super high performance laser application multiple production system," and all-out cooperation with this project will be offered.

This project is expected to require 7 years to complete with expected total funding of 13 billion yen. The budget for research and development in JFY 1977 was 131 million yen, JFY 1979 was 384 million yen and for JFY 1980 2.825 billion yen.

6)-3 Survey research on technological development of safe and automated systematization of operations within nuclear reactors

Japan's nuclear power production (electric) has come to be second largest in the world next to the United States.

On the premise that technological development on safe and automated systematization of internal operations within nuclear reactors will become a national project, basic survey research will be conducted from the standpoint of assuring safety of nuclear power production facilities, reducing the exposure of workers engaged in

maintenance and inspection operations, and improving the operating rate of nuclear power generating facilities.

7) Commissioned activities will be conducted through mechanical engineering and project development subsidies (Japan Machine Industry Association) in order to promote machine systems engineering.

System design on "computer-assisted robot system engineering (CARE) systematization" (total cost 15 million yen, entirely subsidized) was drawn up in JFY 1980 as a continuing activity in addition to which "safe and automated system design-using robots" (total cost 12 million yen, entirely subsidized) involving 1) safe automation for developing civil engineering, 2) automated distribution and transport system for delivery goods, and 3) safe automated system for bringing down active power distribution lines will be accepted for study.

8) The following subsidized activities (total of 15 million yen from the Machine Industry Promotion Subsidy for activity cost of which 11.25 million yen is from the subsidy) will be conducted on studying human recovery from labor situations with the purpose of improving social welfare and labor welfare.

8)-1 Proposed research activity on automated model for a treatment system to be used in urban trash management and disposal

This activity is continually assuming greater importance because the overdensification of cities is causing increased volume of urban wastes together with increasing trends toward large bulky wastes.

The purpose of this study is to release workers from exposure to adverse working environment and severe working operations that are involved in collecting and transporting these massive quantities of trash. (Total cost 5 million yen (of which 3.75 million is by subsidy))

8)-2 Proposed research on system to ease status of patients in body injury treatment facility

When physically injured are being cared for in rehabilitation or convalescing facilities, the system of this conceptual device is expected to provide capability for locomotion within the chamber, eat and drink, and read and thereby provide them with assistance so they can have their faculties assisted to enable them to enjoy comfortable lives during the course of convalescence. (Total cost 5 million yen (of which 3.75 million yen is by subsidy))

8)-3 Projected research on automated model for handling and assembly system for a temporary reinforced concrete work frame used in construction

This activity is designed to develop a temporary frame to be assembled and disassembled at the site of reinforced concrete construction to enable the installation of reinforcing material, facilitate assembly of the reinforcing structure and assist concrete pouring and thereby prevent possible human injury. (Total cost 5 million yen (of which 3.75 million is by subsidy))

9) Promotion of international technology exchange

The following activities are planned to activate international technology exchange and promote trade.

9)-1 The following activities will be promoted in the sponsorship of the 11th International Industrial Robot Symposium to be held October 1981 at Tokyo.

i) Set up for distribution a network to collect literature relating to evaluation of social economics, technology development, standardization and safety developments.

ii) Collection and examination of abstracts to papers

iii) Setting up and distribution of temporary programs

iv) Collection and distribution of original papers and summaries

v) Collection of papers and technological material

(Activity cost 3.101 million yen (of which 2.325 million yen is from Machine Industry Promotion Fund*))

9)-2 Cooperation with the "Machine Seminar" (JETRO activity) which has the purpose of introducing Japanese technology to other countries and sponsorship this year of a "seminar on the Japanese industrial robot in Australia."

9)-3 Market survey for industrial robots in foreign countries

9)-4 Survey on research and development on industrial robots being conducted at foreign university and national research institutions

3. Details according to Separate Activities

1) Policy related

Establishment of basic policy on suitable national policies regarding finances, taxes and business and requests for subsidies along with expansion and development of this society's activities.

2) PR activities

1) Publications such as bulletins

a. Editing and publishing of bulletin ROBOTS

b. Editing and publishing of association journal ROBOT MONTHLY

*What is listed in this activity plan as the Machine Industry Promotion Fund Subsidy is that subsidy activity provided by the Machine Industry Promotion Fund which is a part of the profit from the auto races which has been accumulated by the Japan Small Car Promotion Society.

- c. Updating, compiling and publishing of comprehensive industrial robot catalog
- d. Publishing of PR material related to assistance in finances and taxes

II) Business related

- a. Utilization technology lectures (three times during the year in July, December and March)
- b. Domestic industrial robot symposium (October)
- c. Industrial robot film festival (February)

3) Popularization promoting activity

I) Market survey

- a. Long-term demand predictions on the industrial robot market

II) Sales promotion

- a. Plan popularization and promotion of industrial robots through an interest-free loan system. Plan to operate with 690 million yen in JFY 1980.
- b. Promoting popularization through an industrial robot leasing system (lease sales through the Japan Robot Leasing Company).
- c. Promoting popularization by special amortization system of important combination machines (high performance electronic computer-controlled industrial robot).
- d. Promoting popularization through labor-safe industrial robot loan system.
- e. Promoting popularization through utilization of Medium and Small Industries Facilities Modernization Loan System and Facilities Loan System.

III) Robot consultation office

To handle items of discussion between makers and users relating to robots, treat subjects of discussion and handle treatment.

4) Technology promotion activities

- a. Research on standardizing distribution lines and pipes
- b. Setting up group specifications on operating panel display
- c. Setting up industrial standards basic plan related to methods of measuring properties and performances
- d. Proposed research on living comfort system for use within bodily injured treating facility

- e. Survey analysis of trends in research organs
- f. Survey research on patents
 - Collection, analysis of patent information
 - Research on simplification of search procedure of the patent literature
 - Joint actions on disputes arising from statements of opposition to patents
- g. Survey research on low-cost automation
- 5) Safe labor model proposed research activity
 - a. Proposed research on automated model for treatment system to be used in urban trash disposal
 - b. Proposed research on automated model for handling and assembling concrete pouring frame for construction use.
 - c. Commissioned activity on technological development of safe automation of castings finishing operations.
- 6) Systems research activities
 - I) Commissioned activity on developing mechanical engineering project
 - a. System design of computer-assisted robot system engineering (CARE)
 - b. System design of safe automation using robots
 - c.
 - i) Safe automated system for developing wood material energy
 - ii) Automated delivery and transport system for distributing items
 - iii) Safe automated system for bringing down operation of live distribution power lines
 - II) Cooperation with research and development on super high performance laser application multiple production system
 - III) Survey research on technological development of safe automated system for in-nuclear reactor operations
- 7) International technology exchange activity
 - a. Sponsorship of the 11th ISIR (October 1981, Tokyo)
 - b. Sponsorship of Japanese industrial robot technology seminars in foreign countries
 - c. Market survey on industrial robots in foreign countries
 - d. Survey on trends in research and development on industrial robots in foreign countries

e. Collection of foreign literature and catalogs, translation of foreign literature

f. In addition, technology exchange with foreign countries

JIRA Membership Information

Tokyo ROBOT in Japanese No 27, Jul 80 p 102

[Article: "JIRA Membership Information and Application"]

[Text] Accompanying the transition of the industrial world today from a high rate of growth economy to a low rate of growth, there will be need hereafter to bring about spectacular increase in productivity in order to reinforce the industrial business foundation and to enhance international competitive power. At the same time, it is the present situation that every effort must be directed at promoting the well being of labor by preventing the incidence of adverse effects such as labor disasters and occupational diseases resulting from dangerous and extreme operations and operations in adverse environment.

In the midst of such a situation, the industrial robot has made possible medium variety and medium volume or multiple variety and small volume production which heretofore had been considered difficult by single machine production, contributed greatly to the improvement in productivity, and now basks in the footlights as a prime contributor to improving labor's well being by prevention of adverse effects such as labor disasters.

Furthermore, the industrial robot has contributed to improved and stabilized product quality, improved efficiency in facility investment, improved production control, and better conservation of resources and energy of which the industrial world has become increasingly more cognizant. The stage finally has been set for the industrial robot to win popular acceptance.

With this background, this association with the guidance and assistance of government and academic circles and the cooperation of the users of industrial robots and the associated industrial world is attempting to promote this manufacturing industry. At the same time, the following activities are being developed by all-out efforts in order to contribute to the automation and safety of the industrial world.

1. Promoting survey and research on markets and technology related to industrial robots both in the domestic and the foreign markets and the utilization of these results.
2. Establishment and promotion of proposals related to the provision of production system for industrial robots and rationalization of production
3. Promotion of industrial robots, development of their application systems and popularization and improvement of utilization technology
4. Promotion of system production of industrial robots and promotion and popularization of industrial robot utilization

5. Promotion of standardization and specification of industrial robots
6. Promotion of joint research on industrial robots
7. Establishment and promotion of plans to encourage technology exchange on industrial robots with foreign countries and encourage trade

Fortunately, the industrial robot was classed as a machine promoting rationalization, machine promoting industrialization and machine promoting experimental research by the "Kijoho" [Extraordinary Measures for Promotion of the Machinery and Information Industries Law] promulgated and enacted in July 1978. The various offices of the government embarked on an intensive promotion of education.

That is to say, plans for training promotion where this association is concerned have included an interest-free loan system for the popularization and promotion of industrial robots which was offered to its regular members and which has been underway since 1973 and which had developed into an operating fund of 690 million yen in JFY 1980. This program is greatly benefiting the promotion of greater use of industrial robots on the part of its regular members in the face of the approaching high-interest-rate age.

In addition, the Machine Systematization Promotion Loan System finances introduction of industrial robots by advancement from the Development Bank other than which the following 4 plans for the promotion of popularizing industrial robots have been put into operation from JFY 1980.

- i) Establishment of industrial robot leasing system (Japan Robot Leasing Company) with public financed loans (Development Bank loans)
- ii) Designation of the industrial robot as a machine qualifying for inclusion in the Industrial Safety and Health Facility Loan System (Medium and Small Industry Loan Fund, People's Finance Corporation at low rate of interest)
- iii) Establishment of special amortization system for the high performance electronic computer-controlled industrial robot
- iv) New addition of industrial robots in the list qualifying for the Medium and Small Industry Facility Modernization Loan System and the Facilities Loan System

This has been an introduction to the objectives and activities of this association, and this association invites new members into its ranks to participate in these activities.

2267
CSO: 8129/0116

END

END OF

FICHE

DATE FILMED

Feb. 2 1981